

Classification of the Family Pipunculidae from Korea (Diptera) Part 1. On the genus *Moriparia* gen. nov. from North Korea

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Abstract As the first series of the systematic survey on the Korean Pipunculidae, a new genus encompassing 4 new species from North Korea is described here. The following new taxa are proposed: *Moriparia* gen. nov., *M. alata* sp. nov., *M. amica* sp. nov., *M. spinosa* sp. nov., and *M. nigripennis* sp. nov.

Key words systematics, Diptera, Pipunculidae, North Korea.

INTRODUCTION

The family Pipunculidae includes small dark inconspicuous flies (except for the species of the genus *Nephrocerus*) with large subhemispherical to hemispherical head; larvae are parasitoids of Auchenorrhyncha (Homoptera). Hitherto, about 900 species have been known to world fauna and approximately 250 are recorded from the Palaearctic region (Tanasijtshuk, 1988).

In the last decade, remarkable progress in the taxonomic and faunistic studies of West-Palaearctic Pipunculidae has been made (De Meyer, 1989a). European or world revisions of some genera were published (Albrecht, 1990; De Meyer, 1989b; Grootaert and De Meyer, 1986). On the other hand, our knowledge of East-Palaearctic Pipunculidae (except for Japan) is rather limited. At the moment, 40 species from Soviet Far East and North China are known (Tanasijtshuk, 1988; Kuznetsov, 1990). Morakote and Hirashima (1990), and Morakote et al. (1990) carried out a systematic study of Japanese Pipunculidae and recognized 108 species from the territory of Japan.

Investigation of Korean Pipunculidae is only preliminary (De Meyer and Kozánek, 1990). The aim of this work is to improve our knowledge of species of this family from North Korea. The specimens examined here were made mainly during the entomological expeditions on the basis of the Czechoslovak-North Korean Cultural Agreement in May 1988 and August 1989, and now deposited in the collection of the Slovak National Museum, Bratislava, Czechoslovakia (CSNM). Other numerous materials for comparative study were loaned from the Hungarian Natural History Museum

(HNHM), Budapest, Hungary.

SYSTEMATICS

Genus *Moriparia* gen. nov. 머리파리속(신칭)

Type species: *Moriparia nigripennis* sp. nov.

Generic characters. Medium sized species. Antennal segment 3 blunt or very short acute; segment 2 dorsally with few short dark bristles, ventrally with slightly longer bristles. Ocellar and frontal bristle absent. Frons longer than antennal segment 3; medially with subshining keel. Eyes in males holoptic. Mesonotum with two dorsocentral rows of hairs; anterolaterally with long black hairs; mesonotal bristles absent. Propleura without long dark hairs. Scutellum with long dark hairs along hind margin. Humeri dark with few dark short hairs. Legs dark. All femora posteromedially with row of long dark hairs; at least mid femora ventrally with double row of short dark spines. Pterostigma fully colored. Third costal section longer than fourth section. Vein M_{1+2} without appendix. Anal vein present. Abdominal tergum 1 with lateral fan of long dark hairs. Terga 2–5 laterally with long dark hairs. Sternum 8 distally with membranous area. Surstyli symmetrical or asymmetrical, covered with microtrichia. Ejaculatory duct trifid; laterally with cylindrical structure covered with short or long spines. Ductuli short to very short.

Remarks. The present new genus resembles in some features *Eudorylas* Aczel, but can be distinguished from the latter by the following points: anterolateral part of mesonotum with long dark hairs; all femora with posteromedial row of long dark hairs; all abdominal terga laterally with long dark hairs; ejaculatory duct laterally with cylindrical structure covered with short or long strong spines, and ductuli short to very short.

Etymology. The generic name (gender: feminine) is derived from the Korean words "mori" (head) and "pari" (fly).

1. *Moriparia alata* sp. nov. 날개머리파리 (신칭)

Male. Headless. Mesonotum black, greyish dusted, at center with brownish dusting; anterolaterally with long black hairs. Scutellum greyish brown dusted, with a few short dispersed dark hairs and a row of long dark hairs along hind margin. Humeri black, with few short dark hairs. Pleura black, greyish dusted. Halteres dark brown.

Coxae and trochanters black, sparse greyish dusted; mid coxae apically with few short dark hairs. Femora black, narrowly yellow at apex, sparse greyish dusted. All femora posteromedially with a row of long dark hairs. Mid femora ventrally with double row of 10–11 short dark spines. Tibiae black, narrowly yellow at base; hind tibiae medially with 4–6 outstanding black hairs. Tarsi black. Pulvilli shorter than last tarsal segment; unguiculli about as long as last segment.

Pterostigma fully colored. Third costal section about twice as long as fourth section. Vein M_{1+2}

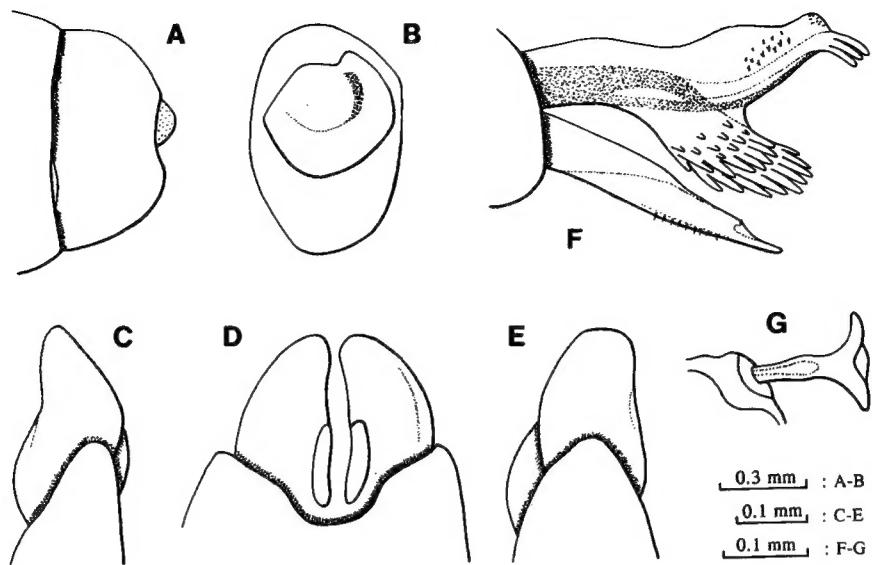


Fig. 1. *Moriparia alata* sp. nov.

A. sternum 8 dorsal; B. sternum 8 caudal; C. outer surstyli lateral; D. surstyli dorsal; E. innersurstyli lateral; F. aedeagus and ejaculatory duct lateral; G. ejaculatory apodeme lateral.

slightly undulated. Cross vein r-m placed shortly before the middle of discal cell. Wing length: 5.1mm.

Tergum 1 greyish dusted, laterally with 11–14 long black hairs. Terga 2–5 in basal two thirds blackish, otherwise greyish dusted. Sternum 8 a little longer than half length of tergum 5. Membrane area roundish, placed in right half of sternum 8 (Figs. 1A,B). Epandrium and surstyli black. Surstyli subsymmetrical, blunt apically. Aedeagus rather long and narrow. Ejaculatory duct trifid, laterally with cylindrical structure covered with short and long spines. Ductuli very short. Ejaculatory apodeme rather short, broadened apically (Fig. 1C–G).

Female. Unknown.

Type material. Holotype: ♂, Mt. Ryongak-san, 10km W of Pyöngyang, Pyöngyang City, North Korea, 9.V.1988, M. Kozánek, CSNM.

Distribution. Korea (North).

Etymology. From latin “wing”; referring to the wing shaped lateral structure of ejaculatory duct.

2. *Moriparia amica* sp. nov. 친구머리파리 (신칭)

Male. Antennal segment 3 black, pubescent, blunt apically; antennal segment 2 black, ventrally and dorsally with 3–5 black bristles. Frons black, greyish brown pubescent, about 2.5 times longer

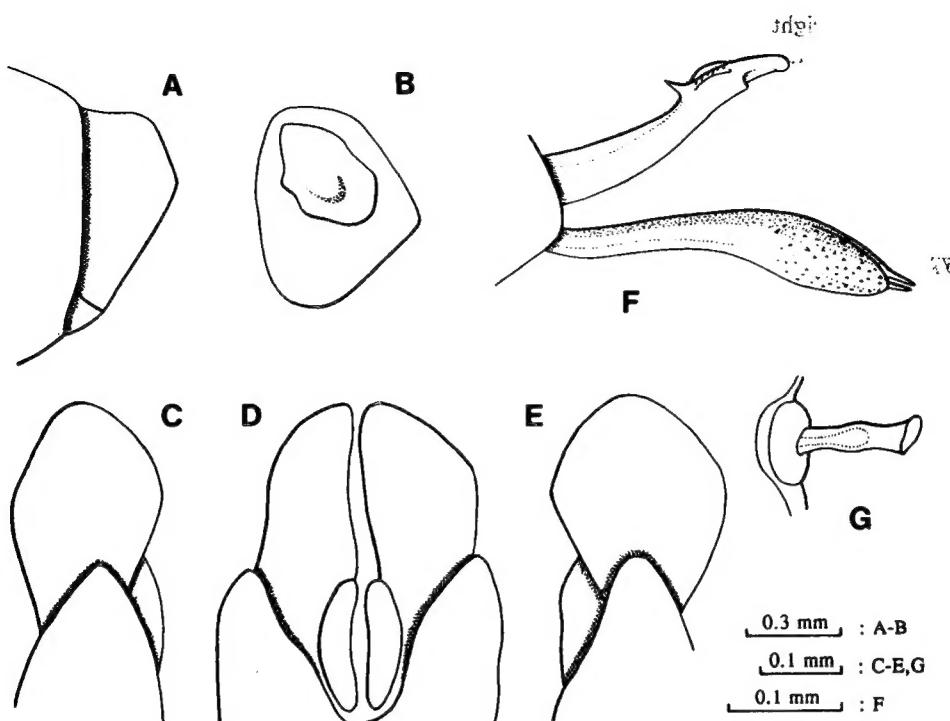


Fig. 2. *Moriparia amica* sp. nov.

For caption, see fig. 1.

than antennal segment 3, at center with distinct keel. Ocellar triangle equilateral. Occiput greyish dusted, in upper quarter with brownish black dusting.

Mesonotum is anterior margin and at sides greyish, otherwise brownish dusted; anterolaterally with long black hairs. Scutellum black, brownish dusted, with a few dispersed hairs and a row of long dark hairs along hind margin. Humeri dark, apically with few short dark hairs. Pleura black, greyish dusted. Halteres blackish.

Coxae and trochanters black, sparse greyish dusted; all coxae apically with short hairs. Femora black, greyish dusted, narrowly yellow at apex; all femora with posteromedial row of long dark hairs. Mid femora ventrally with double row of 9–10 soft dark spines. Tibiae black, narrowly yellow at base; four anterior tibiae without posteroapical bristles. Hind tibiae medially with 3–4 outstanding black hairs. Tarsi black. Pulvilli shorter than last tarsal segment; unguiculi as long as last segment.

Wing infuscated. Pterostigma fully colored. Third costal section about twice as long as fourth section. Vein M_{1+2} slightly undulated. Cross-vein $r-m$ placed shortly before the middle of discal cell. Wing length: 5.6 mm.

Tergum 1 greyish dusted, with lateral fan of 11–14 long black hairs. Terga 2–5 brownish black dusted, in posterior margin and at sides with greyish dusting. Terga 2–5 at sides with long black hairs. Sternum 8 black, greyish dusted, about as long as half length of tergum 5. Membraneous area

ovate, placed in right half of sternum 8 (Figs 2A, B). Epandrium black. Surstyli yellowish brown. Surstyli subsymmetrical, blunt apically. Aedeagus rather long and narrow, dorsally with distinct protuberance. Ejaculatory duct trifid, tubiform, laterally with small cylindrical structure covered with short soft spines. Ductuli very short. Ejaculatory apodeme simple, slightly broadened apically (Figs. 2C-G).

Female. Unknown.

Type material. Holotype: ♂, Manmulsang, Mt. Kŭmgang-san, Kangwŏn Prov., North Korea, 25.V.1988, M. Kozánek, CSNM.

Distribution. Korea (North).

Etymology. Dedicated to colleagues from Zoological Institute, Pyöngyang, who greatly contributed to this study.

3. *Moriparia spinosa* sp. nov. 가시머리파리 (신칭)

Male. Antennal segment 3 black, pubescent, blunt apically; segment 2 black, dorsally and ventrally with 4–5 black bristles. Frons black, greyish pubescent, about twice as long as antennal segment 3. Ocellar triangle subshining black, equilateral. Occiput black, sparse greyish dusted.

Mesonotum black, in anterior margin and at sides with greyish dusting, otherwise brownish dusted; anterolaterally with long black hairs. Scutellum black, greyish brown dusted, with a few short dispersed hairs and a row of long dark hairs along hind margin. Humeri dark, apically with few short dark hairs. Pleura black, greyish dusted. Halteres blackish.

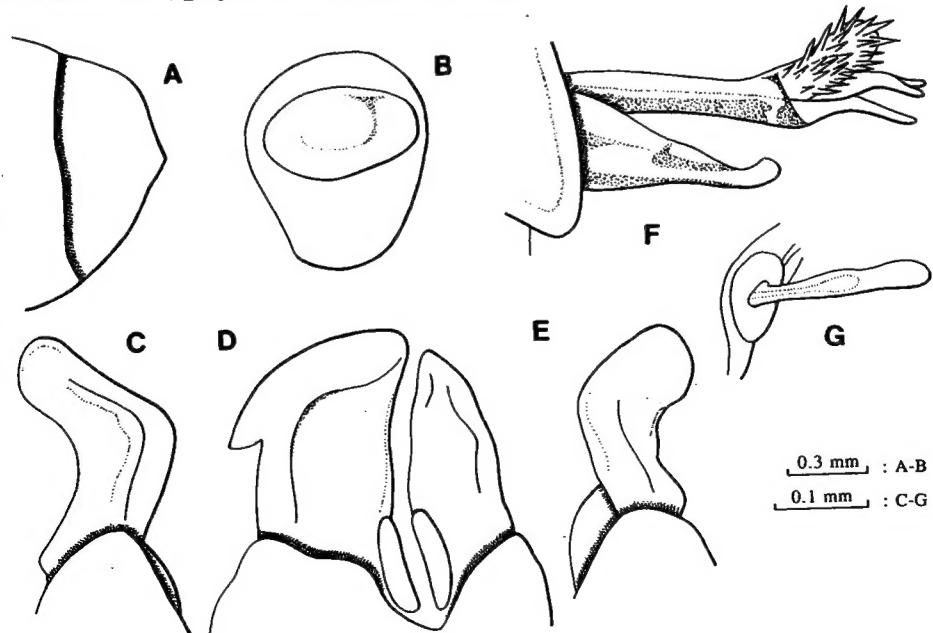


Fig. 3. *Moriparia spinosa* sp. nov.

For caption, see fig. 1.

Coxae and trochanters black, sparse greyish brown dusted. Femora black, narrowly yellow at apex, sparse greyish dusted. All femora posteromedially with a row of long dark hairs. Mid and hind femora ventrally with double row of 7–8 short dark spines. Tibiae black, narrowly yellow at base. Four anterior tibiae without posteroapical bristles. Hind tibiae medially with 3–4 outstanding black hairs. Tarsi brown, last tarsal segment black. Pulvilli shorter than last tarsal segment; unguiculi about as long as last segment.

Wings slightly infuscated. Pterostigma fully colored. Third costal section about 1.5–2 times as long as fourth section. Vein M_{1+2} slightly undulated. Cross vein r-m placed shortly before the middle of discal cell. Wing length: 5.0 mm.

Tergum 1 greyish dusted, with lateral fan of 12–14 long dark hairs. Terga 2–5 in anterior half blackish, otherwise greyish dusted (in dorsal view); laterally with long black hairs. Sternum 8 a little longer than half length of tergum 5. Membraneous area ovate, not reaching epandrium (Figs. 3A,B). Epandrium black, narrowly yellowish brown at apex. Surstyli yellowish brown. Surstyli asymmetrical; outer surstylus with distinct protuberance laterally. Aedeagus simple. Ejaculatory duct trifid, apically with cylindrical structure covered with strong spines. Ductuli short, straight. Ejaculatory apodeme simple (Figs. 3C–G).

Female. Unknown.

Type material. Holotype: ♂, Mt. Ryongak-san, 10 km W of Pyongyang, Pyongyang City, North Korea, 14.V.1988, M. Kozánek, CSNM. Paratype: 1♂, the same data as holotype.

Distribution. Korea (North).

Etymology. Referring to the numerous spines covering cylindrical structure of ejaculatory duct.

4. *Moriparia nigripennis* sp. nov. 검은날개머리파리 (신정)

Male. Antennae black; antennal segment 3 blunt apically; segment 2 dorsally with 2 short, ventrally with 2 longer bristles. Eyes holoptic. Frons dull black, about 2.5 times longer than antennal segment 3, medially with shining black keel (Fig. 4C). Ocellar triangle obtuse black, equilateral. Occiput black, greyish dusted.

Mesonotum completely black dusted, at sides with brownish dusting, anterolaterally with long black hairs, humeri black, apically with a few short dark hairs. Scutellum dull black, with a row of 14–16 long dark hairs along hind margin. Halteres dark brown to black.

Wings heavily infuscated. Pterostigma fully colored, third costal section about twice as long as fourth section. Vein M_{1+2} only slightly undulating: cross-vein r-m placed shortly before middle of discal cell (Fig. 4A). Wing length: 5.5 mm.

Legs black. Coxae anterodistally with few short dark hairs. Femora dull black with sparse brownish dusting; knee narrowly yellowish. All femora posteromedially with a row of long dark hairs along their whole length (Fig. 4B). Mid femora ventrally with double row of 12–14 short dark spines. Tibiae black; posteroventral bristles absent; hind tibiae ventrolaterally with 4 long dark hairs. Tarsi black, last tarsal segment about as long as two previous segments. Pulvilli shorter than last tarsal segment; unguiculi about as long as last segment.

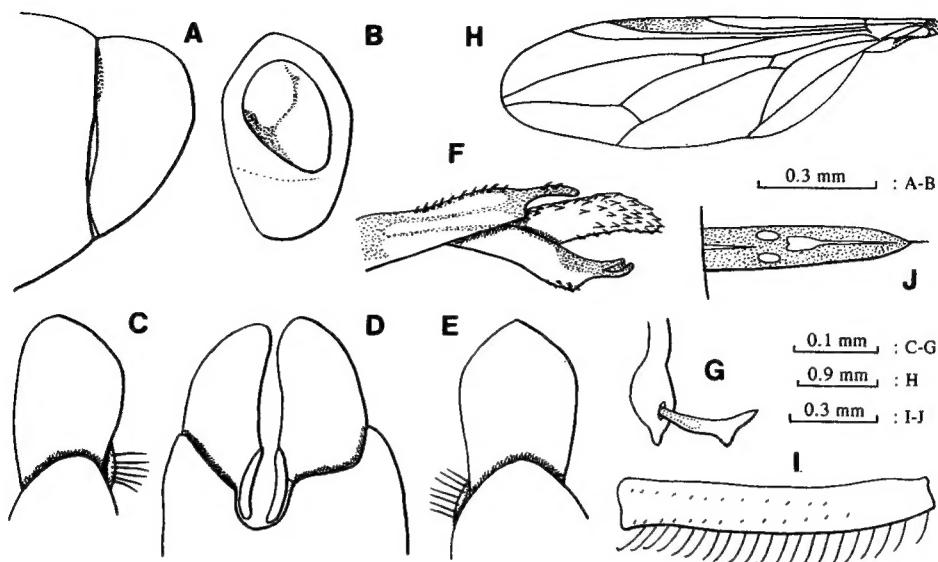


Fig. 4. *Moriparia nigripennis* sp. nov.

For caption, see the preceding figs., except for H, wing; I, mid femur dorsal; J, frons frontal.

Tergum 1 dull black with lateral fan of 12–15 long dark hairs. Terga 2–5 obtuse black, narrowly greyish dusted on hind margin of each segment. Sternum 8 about as long as half length of tergum 5, ventroapically with ovate membranous area, not reaching epandrium (Figs. 4D, E). Sternum 8 without dorsal groove. Abdomen covered with short dark hairs, laterally with longer dark hairs.

Epandrium and surstyli dark brown. Surstyli simple, symmetrical, covered with microtrichia without any setae or spines. Aedeagus simple. Ejaculatory duct trifid, laterally with cylindrical structure covered with short spines. Ductuli short. Ejaculatory apodeme, broadened in apical half (Figs. 4E–J).

Female. Unknown

Type material. Holotype: ♂, Onsupjong, Mt. Paektu-san, North Korea, 19.VIII.1989, M. Kozánek, CSNM.

Distribution. Korea (North).

Etymology. The species name refers to the dark coloration of wings.

ACKNOWLEDGEMENTS

The first author (MK) would like to thank Prof. C.H. Paek, Dr. C.I. Kim, Dr. R.T. Chon, and Dr. C.K. Li (Zoological Institute, Pyongyang), for providing working facility during his stay in North Korea. We are also grateful to Dr. A. Deli-Drakovits for loaning Korean Pipunculidae material from collections of HNHM, Budapest, Hungary. Special thanks are due to Mr. M. Ackland (Oxford, U.K.)

and Dr. M. De Meyer (Brussel, Belgium) for discussing the manuscript. The illustrations and word processing have been prepared by Mrs. A. Huckova, Dr. S.J. Suh, and Miss E.Y. Huh, we are much appreciative of this help.

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韓國產 머리파리科의 分類

1. 北韓產 머리파리屬 (*Moriparia* gen. nov.)에 대하여

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韓國產 머리파리科 系統分類의 一環으로 北韓에서 채집된 머리파리류를 同定하던 중, *Eudorylas* 속에 끊았으나 지금까지 알려지지 않은 새로운 屬에 속하는 4新種을 발견하였기에 기재 보고코자 하며 다음과 같다.

Moriparia gen. nov. (머리파리속, 신칭), *M. alata* sp. nov. (날개머리파리, 신칭), *M. amica* sp. nov. (친구머리파리, 신칭), *M. spinosa* sp. nov. (가시머리파리, 신칭) 및 *M. nigripennis* sp. nov. (검은날개머리파리, 신칭).

검색어: 分類, 파리目, 머리파리科, 북한

(Received: August 1, 1991)